THE AMERICAN JOURNAL
OF
OPHTHALMOLOGY.

VOL. XXI. MARCH, 1904. No. 3.

ORIGINAL ARTICLES.

TRAUMATIC SUBLUXATION OF THE LENS; SECONDARY GLAUCOMA; SUCCESSFUL EXTRACTION, WITH PRESERVATION OF VISION.

By THOMAS R. POOLEY, M.D.

NEW YORK, N. Y.

AS is well known, traumatic dislocations of the lens into the vitreous, whether partial or complete, are fraught with danger for the integrity of the eye as they entail secondary consequences which may be extremely disastrous. The worst complications are those arising from implication of the uveal tract. Increase of tension, also, is especially liable to develop as a result of luxation of the lens.

A variance of opinion exists as to the best way of dealing with such cases. There can, however, be no doubt that where symptoms of iridocyclitis or secondary glaucoma are caused by a malposition of the lens, especially if it be cataractous, the best course to pursue, if it is possible, is to extract the lens.

The reason for reporting the following very interesting case, lies in the successful effort to extract such a cataractous lens in an eye in which secondary glaucoma had existed for some time, unrelieved by other measures, with a preservation, of some degree, of vision.

The patient, a man 69 years of age, who had already been under my observation with immature cataracts in both eyes,

on Aug. 5th, 1902, injured his left eye while chopping wood. After the temporary pain occasioned by the injury had disappeared, he had no symptoms of any further trouble until Dec. 29th, when he first came to my clinic. The eye then presented the usual symptoms of acute glaucoma: a wide, immovable pupil, circumcorneal injection, some ocular chemosis, and swelling of the lids, + T. The lens was dislocated obliquely downwards, its upper edge looking somewhat backward and its lower edge forward. The anterior chamber was very shallow; no details of the fundus could be made out. Vision was reduced to counting fingers at 10′, and the field restricted in the usual manner. Leeches were applied to the temple and one-half per cent. solution of eserine ordered to be put in the eye three times a day.

On February 8th, 1903, he again appeared at the clinic, the pain not having been relieved by treatment. An operation was therefore proposed.

With the patient fully under ether, an attempt at iridectomy was made, but immediately upon the removal of the keratome vitreous presented, and it was found impossible to seize the iris. Further attempts were therefore abandoned, and the operation, which was virtually an anterior sclerotomy, completed. The following day the pain was relieved, there was less injection and Tn. The healing was perfectly smooth.

On Feb. 14th, he was discharged, tension still normal, no injection of the eye, vision equaled $^{15}/_{40}$. The result of this operation was a complete relief of the glaucomatous symptoms for some time. But as the displaced lens became more and more opaque, there was a gradual return of the glaucomatous symptoms, which were relieved by the use of eserine, pilocarpine and cocaine. Nevertheless, the tension of the eye became more and more increased, and vision was reduced to seeing movements of the hand; this was supposed to be partly due to ripening of the cataract.

October 7th the eye had again become very painful, the tension was increased, and vision reduced to perception of light. An attempt to remove the lens was therefore determined upon. Before performing the operation, however, acting upon the suggestion of my colleague, Dr. E. B. Co-

burn, I made a posterior sclerotomy, with a view to reducing the tension and diminishing the danger of loss of vitreous or intraocular hæmorrhage by the sudden release of tension when the lens was removed. The eye being thoroughly cocainized, under strict aseptic precautions, was seized by fixation forceps and drawn strongly inwards. A Beer's knife was then thrust through the conjunctiva and sclerotic, about 7 m.m. behind the cornea, between the superior and external recti muscles, directed towards the center of the vitreous, and as it was withdrawn, turned slightly on its axis. The escaping vitreous was very fluid.

This operation was followed by no reaction or untoward symptoms, and the healing was uneventful. Tension became very much reduced, the anterior chamber rather deeper, and three days later, October 10th, extraction of the lens was performed. A large section was made with a very narrow Graefe's knife, comprising almost half the corneal circumference. Notwithstanding the shallow anterior chamber, the section was completed without engaging the iris except at its upper periphery, just as the section was completed. Immediately upon the completion of the section, it was noticed that the upper edge of the lens presented itself, and slight pressure with the fixation forceps sufficed to extrude it, which was accomplished without the loss of vitreous. The fixation forceps were now released, the speculum removed and the operation completed. The wound gaped considerably, but came into perfect apposition by merely allowing the aqueous to collect. No attempt was made to remove some cortical remnants which remained in the anterior chamber. There was no reaction from the operation except a very marked striped keratitis and rather slow healing of the wound. The patient was discharged on the 10th day with slight remaining circumcorneal injection, with some striped opacity of the cornea, normal tension, and quantative perception of light.

November 30th. The eye is nearly white. There is a cystoid scar. Tn. Fingers are counted on the temporal side. No details of the fundus can be made out on account of dense capsular obstruction, but as there is a good visual field, the prospects of restoring vision by a subsequent discission, are not bad.

Remarks—So far as I am aware, posterior sclerotomy, as an initial step to the extraction of a glaucomatous cataract, has not been heretofore practised, although, of course, it is indicated when iridectomy and anterior sclerotomy have failed, and has been practised for this reason. It, therefore, seems to me very desirable to extend its use to cases similar to the one here reported, and the credit of the method—if it should prove useful—should be accorded to Dr. Coburn. The writer is fully convinced that the successful issue of the case here reported depended upon reducing the extreme tension by this procedure, thus rendering the subsequent extraction both easier and safer.

A CASE OF NON-TRAUMATIC SEROUS CYST OF THE IRIS.

By THOMAS R. POOLEY, M.D.

NEW YORK, N. Y.

HENRY B. SWART, a young man of 34 years, consulted me at the clinic, May 29th, 1903, about a growth on the iris. He was positive that the eye had never been injured in any way, and there was no evidence of trauma. As long ago as twelve years, a small spot on the iris, had been observed both by himself and others, which he said had grown steadily but very slowly until it had reached its present size. About four weeks before I saw him he had consulted an oculist in the town where he resides, who made the diagnosis of "rupture of the iris." The day before he came to the clinic he observed a hæmorrhage of the conjunctiva on the nasal side. At no time had there been any pain, only a slight feeling of discomfort, and no disturbance of vision.

Status Presens.—A large subconjunctival hæmorrhage covers the whole nasal side of the right eye. The pupil is somewhat encroached upon at its lower border. The iris presents a dark-colored mass at its lower temporal side which, on closer inspection by oblique illumination, is seen to be a cyst in the transparent anterior wall of the iris, showing a few striations. The cyst extends from the sclero-corneal margin nearly to the upper margin of the pupil, but leaving a very narrow slit above 4 or 5 m.m., the edge of the iris being

slightly everted, showing the black pigmentary posterior surface of this membrane. The tumor measures about 5 m.m. in both diameters, is somewhat globular in form, but flattened against the cornea. Through the pupil the cyst seems to project slightly backward. Fundus normal. Tn. V= $^{20}/_{20}$ with + 1D c. axis 90°.

Operation.—Cocaine anæsthesia. Under careful aseptic precautions a narrow Graefe's knife was passed from the horizontal meridian downwards and inwards over the tumor and made its exit a little to the nasal side of the corneal centre. Tumor not injured by the section. Mathius' iris forceps were then introduced, but neither the iris nor the cyst could be grasped; nor did it collapse until the fourth attempt when, on introducing the forceps again, the iris was seized, drawn and cut off, including, no doubt, the greater part of the anterior wall of the cyst, for upon repeated attempts it was impossible to obtain any more. A spatula was now used to bring the edges of the wound together and the eye bandaged. There was no infection, nor other untoward symptoms. The patient was discharged on the fifth day after the operation and allowed to go to his home in a distant city.

November 24th, the patient came to show me his eye which has given him no trouble since the operation, and he can see even better than before this was performed. There was a small coloboma downwards and outwards. The iris is engaged in the scar; on the inner side of the coloboma there is a brownish pigment spot about 4 m.m., projecting upwards into the anterior chamber and to the inner posterior side of this a whitish opacity is noticed which, by careful illumination seems to have a transparent wall, (most likely a beginning re-formation of the cyst). The eye is absolutely free from all irritation, and vision with the same correction, is $^{20}/_{15}$. The examination of the small piece of iris removed, made by Dr. E. B. Coburn, shows only rarefied iris tissue and no trace of the epithelial lining of the inner cyst wall.

Remarks.—It is to be feared that the failure to remove all the cyst wall may give rise to a recurrence of the growth, and that another operation will be required. It is worthy of note that the growth of the cyst had given rise to so few unfavorable symptoms, either in disturbance of vision or irri-

tation of the eye. The large subconjunctival hæmorrhage was an unusual feature, but whether or not it was caused by the cyst, is difficult to say.

Another point of interest in the case, is the spontaneous origin of the cyst. Non-traumatic cysts of the iris are of very rare occurrence. At least, three-fourths of the cases develop after a penetrating wound of the eyeball as evidenced by both the history and the presence of a cicatrix. The absence of all such history, and of any proofs of trauma, in this case, place it in this rare category.

While it is beyond the scope of this paper to go into the literature of the subject, I will nevertheless, briefly state the views held as to the origin of these non-traumatic cysts of the iris. Schmidt-Rimpler has suggested that some of the non-traumatic cysts may arise from the closure of the crypts normally present upon the surface of the iris. An accumulation of fluid is then assumed to take place so that a retention—or, more correctly, perhaps, an exudation-cyst is formed. It has also been surmised that some of the congenital cases, (and mine cannot certainly be taken out of this class) may be accounted for by fluid that has collected between Descemet's membrane and a pupillary membrane—(Giraud-Teulon). Lastly, Berry believes that the serous cyst is a kind of cystoid degeneration of the iris, leading to the formation of a diverticulum at the angle of the iris.

JUVENILE CHRONIC GLAUCOMA.*

By H. TRUC, M.D.

Translated by Adolf Alt, M.D.

MISS X., 22 years old. Father and mother were first cousins. Their health is good and vision normal. The paternal great-grandmother was blind when she died. A younger sister, 10 years old, is well but has only two incisors. A brother, 26 years old, for three years, a little before and more especially since his marriage, has been afflicted with Basedow's disease. He has a high degree of exophthalmus of both eyes, tachycardia, pronounced goitre, trembling of the hands and nervosity. However, the affection seems to get better.

*Révue générale d' Ophtalmologie. January 1904.

Our patient has always enjoyed good health. Her denti tion was laborious and each dental eruption was accompanied by bronchitis. She had the measles. Since her 14th year she menstruates regularly and normally. She is of middle height, blond, fat, her flesh firm. She is intelligent, active, very punctilious.

Her usual vision in both eyes has been rather feeble, but there was no lesion, until the previous year. For about a year the vision deteriorated in the right eye and for a few months in the left one.

When I first examined her in February, 1903, I found hypertonus in the right eye, atrophy with excavation of the papilla, and vision = 0.1 with — 3D. ⌒ 1D. c. ax. 90°; the left fundus was normal, vision = 0.5 with — 3D. ⌒ — 2D. cyl. ax. 165°.

The glaucomatous state being manifest, I ordered pilocarpine, massage, laxatives and a relative rest for the eyes. Lately my former assistant, Dr. Delord, of Nimes, had prescribed the glasses which corrected her myopia.

Since her visual condition grew worse the patient again consulted me last October. V. R. E. = $\frac{1}{\infty}$, T + 2, almost no anterior chamber, periorbital sensations of weight, papilla atrophic and excavated. L. E. hard, anterior chamber much diminished, slight excavation of the papilla, arterial pulsation, visual field nasally contracted. Pulse 72, no cardiac trouble, no arteriosclerosis, no goitre, etc. The glaucoma had signally progressed. Laxatives, sodium bromide, large doses of pilocarpine, massage. Under the influence of the miotic* the conditions of the right eye are not altered, but the left eye retains its vision.

On account of the gravity of the situation I proposed a double iridectomy upwards, with or without anæsthesia. The operation was performed on both eyes without general anæsthesia, with the assistance of Dr. Delord and my assistant P. Chavernac. The eyes were clean even under a trial bandage and, thanks to 20 grammes of bromidia, the patient was extremely docile.

The iridectomy had to be made first on the left eye, the better one, because it is known from experience that the first

*Truc and Cauvin, Arch. d'Oph. 1900; Cauvin, Th. Montpellier, 1900; DeWecker, Soc. fr. d'Opht. 1901.

operation is usually better born than the second one at the same sitting. On æsthetic and visual grounds it had to be made upward. Finally on account of the hypertonus and the extreme smallness of the anterior chamber I had to employ a narrow von Graefe knife and to make a rather small incision. At another occasion I have indicated that contrary to the still classic opinion of von Graefe, it is useless in glaucoma to make a very large excision of the iris.

In order to prevent further complications, I also desired to make a small conjunctival flap. The iridectomy on the left eye was very simple, except that at the nasal angle of the sclero-conjunctival wound a point-like incarceration of the iris occurred which could not be reduced. The iridectomy on the right eye presented no particular incident. Immediately after the operation the eyes were very hard, T + 2.

The eyes were bandaged with the usual moist pads held by collodion.* Rest in bed, fluid nourishment, bromidia and laxatives were ordered.

No pain was noticed except during the first few hours. Sleep was normal. Simple nourishment.

The bandage was changed on the fifth day. The condition of the eyes was perfect, no secretion, no pain, no injection; but the anterior chamber was not re-formed, neither in the right nor in the left eye and there was still hypertonus, T + 1.

This condition lasted for some time, till in about a month, first the right and then the left anterior chamber became re-established.

In the middle of November, when the wounds were perfectly cicatrized, I found a slight hypertonus, the anterior chamber shallow, pupil regular, media normal and atrophy and excavation of the papilla in the right eye; the same conditions as before the operation in the left eye but no excavation. V. R. E. $= \frac{1}{\infty}$. V. L. E. = 0,6 with —4D ⌒—2,5 D. c. ax. 180°. The visual field for white and colors was enlarged.

This observation of a case of simple glaucoma is important on account of its rarity, the rapid progress of the optic atrophy, the consanguinity of the parents, and perhaps, also the exophthalmic goitre in the older brother.

*These bandages, which I have used for many years, give entire satisfaction to the patients and myself.

The lesion seems to have been developed in less than two years, first in the left, then in the right eye.

Father and mother are first cousins. The brother has been afflicted with Basedow's disease for three years, true in the way of healing; yet, he was attacked at the age in which the young lady was affected with glaucoma, and his disease was aggravated by an untimely marriage.

We find an important pathogenic link between the glaucoma and Basedow's disease in a possible sympathetic affection. Would not, from a therapeutic standpoint, a sympathectomy be the best remedy in both of these cases?

The rarity of the case adds to its interest. Aside from the cases of secondary glaucoma and hydrophthalmic glaucoma, which we encounter quite frequently in children and adolescents, similar cases remain exceptional.

Yet I have a distinct recollection of two other young patients affected with chronic glaucoma. The first was a lady, 20 years of age, who since infancy had retinitis pigmentosa with slight hyperopia. There was considerable hypertonus (T + 2) in both eyes. V. L. E. = $\frac{1}{\infty}$; V. R. E. = 0,1. Slight improvement under miotic treatment. Iridectomy was proposed and refused.

The second patient was a young man, 19 years of age, with high myopia (20 D.) in both eyes, with detachment of the retina in one and enormous staphyloma in the other. An iridectomy had been proposed in vain. Blindness very quickly became complete.

Still, cases of chronic glaucoma in young people remain nevertheless exceptional observations.

Priestly Smith gives in his statistics a proportion of 0,5 to 1%.

Yet, in the literature at my disposal I can find only two cases by Lange cited by Panas,* one case by Ayres† and one case by Alt.‡ Lange's patients were a young girl and a young man. In Alt's case it was a girl 13 years of age, myopic, who had an attack of glaucoma with + T 2 after the instillation of a drop of atropine solution. Finally, Ayres' patient was a young girl, of 16 years, in good

*Traité des maladies des yeux. Vol. I. p. 503.

†Amer. Journ. of Ophth. April, 1899, and Révue générale d'Opht. 1900.

‡Amer. Journ. of Ophth. Sept., 1899, and Révue générale d'Opht. 1900.

health, myopic, in whom a chronic simple glaucoma had destroyed nearly all vision in one eye, and in the other had reduced the visual acuity to 0,9, with a considerable contraction of the nasal part of the visual field. Eserine had only a temporary effect. In the left eye an iridectomy re-established normal vision.

It is remarkable that nearly all of these glaucoma cases, as ours likewise, are myopes; and this is another interesting point, since myopia can result from an absolute excess of tension (direct glaucoma) or from an insufficiency of resistance in the posterior part of the sclerotic (indirect glaucoma). Perhaps, it is necessary in these cases to examine especially for circulatory affections and, like Abadie, at once to make sympathectomy.

THE HEREDITARY ELEMENT IN CATARACT.*

By B. L. MILLIKIN, M.D.

CLEVELAND, O.

Prof. of Ophthalmology Western Reserve University, Ophthalmic Surgeon to Lakeside Hospital, etc.

THAT heredity plays an important role in the development of cataract has been known for many years. The literature of the subject, however, is not extensive, not so much so as would seem that the subject would warrant. An occasional instance only of families affected with cataract through two or more generations has been found, a few of these being very striking. Most interesting are the reports of Dyer, Thompson, Dickey, Becker, Green, Berry, Fukala, Fromaget, Arlt and others. In many of these reports the cataracts have been congenital, in some they develop in early life, from three to five or ten years of age, in others in youth, coming on at a certain definite period, in various members of a family, while in still other families the cataracts are always of the senile type. No special form of cataract predominates largely in these various reports which I have been able to examine.

My own experience has to do with at least three families in which the hereditary tendency to the formation of cataract is manifest. It has seemed to me a brief report of these is

*Read before the Section of Ophthalmology, Otology and Laryngology, Cleveland Academy of Medicine, January 29, 1904.

not without interest. In two of these families, cataracts were present in at least three generations, and in one in two generations. I shall give brief notes of these three families in the order in which they came under my observation.

The first case was that of Garfield M., Æt. 8 years, a well developed boy who had had fairly good vision as a child until about six years old, when his sight began to fail. When examined in May, 1888, both eyes showed fully developed cataracts, the entire lens being opaque, of a white color, and uniform appearance. There were good light perception and projection. Early in June, 1888, both eyes were operated upon by discission. The right eye-ball was small, and though operated on more than once, no satisfactory result was obtained, although the pupil was fairly clear, there being evidently some congenital defect, together with a strabismus. The left eye recovered perfectly, with a good clear pupil. Testing the refraction in December, 1888, it was found that with + 16.00 D., V. = $^{6}/_{15}$. Examined again in August, 1900, it was found that with + 14.00 D., V. = $^{6}/_{6}$ +. and with + 18 D., he was able to read any ordinary print with ease. He has been able to go to school with satisfaction, and has performed the work of a farmer perfectly well. With the exception of the eyes, this young man is a well developed, healthy individual in every way.

On August 21, 1900, June M,, Æt. 13, a sister of the above, came to my office with the following history: The sight of the right eye began to fail four years previously, and failed rapidly, so that there was only light perception since. The left eye began to fail three weeks before her visit, and failed so rapidly that within a few days she could see only enough to avoid large objects in walking. At the time of her visit she had only light perception in each eye. The patient was an unusually large, well developed girl in every way. The right eye showed fully developed white cataract, of uniform appearance, while the left showed a less dense lens. The eyes were well formed and apparently in normal condition otherwise. Both eyes were operated upon with needles and with a good clear pupil in each, two operations having been performed on each eye. Practically there was no irritation after either operation, both eyes having been operated on at the same

time. After recovery from the operation, testing the refraction gave the following result: O. D. with + 11.00 D. ⌒ + 2.00 D. cy. ax. 90°, V. = $^{6}/_{12}$ +. O. S. with 11.00 + D. ⌒ + 3.00 D. cy. ax. 90°, V. = $^{6}/_{12}$ +.

With + 2.00 D. added to the above for bifocals, she has been able to do school and other work with comfort. These two were the only children in this family. On investigation it was found that the mother of these children had cataracts of both eyes as a girl, and had been operated upon successfully, while the latter's mother gave a similar history of being operated upon as a young girl, also successfully.

The next family which I saw was a Swedish family, living in Ashtabula, Ohio. The first patient seen in this family was Clara W., Æt. 9 months, who was brought to my office on May 13, 1890, having double congenital cataracts. She was a strong, healthy looking baby and in every way well developed. In addition to the cataracts there was convergent strabismus. On May 14, 1890, under ether a needle operation was performed in each eye, the lenses were both quite hard, especially the nuclear portion, so that the needle penetrated with some difficulty, and the lenses seemed small. There was little reaction afterward. On the 20th, six days later, the eyes were entirely quiet, but the right showed a dislocation of the lens into the anterior chamber. It was thought wise to remove this on account of possible danger from pressure on the iris. On the 22nd of May, under ether, an incision was made upward with a Graefe knife, and the entire lens removed with a wire loop, with no accident. A prolapse of the iris was replaced with the spatula, leaving a clear round pupil. Eserine was instilled, and the eye bandaged. The dressings were all removed on the sixth day, showing a clear round pupil. The patient left for home that day. On June 20th, the left eye was needled the second time, from which the patient made a good recovery.

The second child, Hilda W., Æt. six months, was examined on January 3, 1893, this one also being a well developed baby, with nothing abnormal except the eyes, both of which had congenital cataracts, involving the entire lens. Both of these children were girls, in fact all the individuals affected in this family, so far as ascertained, were females.

The mother of both these children had had double congenital cataracts, operated on in Sweden, and she informed me that she had a sister, who had double cataracts, and had been operated on at six years of age, she dying within six months after the time of the operation.

Dr. Baker has informed me that he operated on the second child, Hilda, of this family when she was five or six years old, successfully. He also informs me that the grandmother of these two children had the same disease and was operated on in Sweden, making therefore, three generations of congenital cataract, with five individuals all affected. There were only the two children in this last generation. So far as could be ascertained all the individuals were strong healthy persons with no other defects.

The third family with cataracts were Germans, the mother being unable to speak much English. Three children of this family, with the mother, appeared at the Lakeside Hospital Dispensary on July 9, 1902. These were Alma H., Æt. 9, Arthur H., Æt. 12 and Ella H., Æt. 15. The following history was obtained: The mother was 44 years old, and had good eyes, the father was 46 years old and had been operated by Dr. Baker five years previously for cataract, first in one eye and then in the other. In this family there were seven children. The first two, boys, had good eyes, while the youngest, also a boy, had good eyes. The other four, three girls and one boy, all had congenital cataracts. The day after the examination of these three, another daughter, Anna H., Æt. 17 years, was brought in showing the same defect. The mother and six of the children were examined by my assistant, Dr. Bruner. Whether the father's was a case of congenital cataract or not it is impossible to say. He had, however, always had poor eyes, and after the operation it was found he had a considerable myopia, together with some choroidal changes. The children had congenital central opacities of the lens, varying somewhat in shape and size, producing greater or less disturbance of vision and incapacitating all of them from doing much reading except with very large type. The vision varied from $^{3}/_{60}$ to counting fingers at one foot. The eyes were well formed and all the children were large, robust and well developed.

Alma and Arthur were first sent into the hospital and operated upon, one eye at a time. Then all four were sent in and all operated on the same day, one eye in each individual. Up to the present time Alma and her brother have had both eyes operated on, and Ella and Anna have had each one operated on. All of them were successful and none of them had much irritation after any of the operations. The refraction of the eyes after the operation was as follows:

Alma— + 11.00 D. each eye, V. = $^{6}/_{60}$.

Arthur— O. D. + 6.00 D. ⌒ + 2.00 D. cy. ax. 60°, V. = $^{6}/_{21}$ +.

O. S. + 5.00 D. ⌒ + 2.00 D. cy. ax. 75°, V. = $^{6}/_{21}$ +.

Ella— O. S. + 7.00 D. ⌒ + 1.50 D. cy. ax. 105°, V. = $^{3}/_{60}$.

Anna— O. S. + 10.00 D. ⌒ + 2.00 D. cy. ax. 90°, V. = $^{6}/_{30}$.

It will thus be seen that two of the children were somewhat nearsighted. In all of them the pupils were black and clear, and as the tests were made very shortly after recovery from the operations no doubt a careful refraction later on will give better results so far as the testing with letters is concerned. In a sense these patients must learn how to see and interpret. The improvement of vision is well illustrated in the case of the first patient of the series, where after ten or more years his vision had increased, with correction from from $^{6}/_{15}$ to $^{6}/_{6}$ +.

In this series of cases there are reported fourteen individuals, the subjects of hereditary cataract. Of the fourteen three were males and eleven females. In two of the families the line of descent was through females and in one from the father. As to nationality, one was American, one Swedish and one German.

A word as to the operation. There is nothing original in this. For some time I have followed the rule of using a single needle in performing the first operation on cases requiring discission. With this the lens matter itself is pretty well stirred up, without too extensive damage to the anterior capsule. At the second operation two needles are used. At this time the capsule and lens matter are thoroughly torn apart in the pupillary area. Generally I find that a large portion of the lens matter has been absorbed away after the

first needling, and the free tearing of the capsule and remaining lens matter does not produce much reaction, and the patient makes a fairly rapid recovery. As illustrating the results, in the case above of Ella H., she was operated first on March 25th, and left the Hospital on April 6th. The second operation was on May 28th, and she left well on June 23rd, with almost no irritation after either operation. Anna H. was operated on the same dates as her sister and the recovery was equally satisfactory.

Of especial interest is the case of Clara W., in whom an extraction of the hard nuclear cataract was performed, on account of the luxation of the lens into the anterior chamber, with satisfactory results. The thorough use of atropine I deem of much importance, to be continued until the eyes are absolutely free from all injection. Patients are kept in bed never longer than twenty-four hours, and the eyes are kept covered not longer than four or five days, unless there is some special reason. They are all treated in the open wards, with no darkening of the room or other protection than medium tinted smoked glass.

TENTH INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.

Lucerne, Sept. 18, 1904.

EXHIBITION.

The Committee of the Tenth International Congress of Ophthalmology has charged me with the preparation for the appropriate exhibition of all scientific apparatus, instruments, and the various appliances for instruction, which will be sent to the Congress.

I therefore request all colleagues, as well as all scientific, optical and mechanical firms who wish to exhibit any objects at the International Ophthalmological Congress in Lucerne to apply to me before July 1, 1904, giving an exact statement of the object to be exhibited, of the space demanded, and of the kind and strength of electric force which may be required.

Objects, which are announced later, can only be accepted as far as the space at disposal will still allow.

PROFESSOR DR. A. SIEGRIST, Bern.
Director of the Ophthalmological Clinic of the University, Bern.

MEDICAL SOCIETIES.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

CHARLES HIGGENS, F.R.C.S., Vice-President, in the Chair.

Thursday, January 28th, 1904.

PROPTOSIS.

MR. W. H. H. JESSOP read a paper on this subject describing two cases.

The first one was of syphilitic origin, the patient being a man who suffered from intense headache with swelling in the right temporal region and protrusion of the eyeball. He was treated with iodide, etc., but without much relief. The vision was reduced to fingers at 12 in., there was slight ptosis, pupil 4 mm., inactive, optic disc pale and a discharge from the nostril. An incision was made into the swelling and dead bone was discovered. This gave slight relief but the pain soon returned and Mr. Waring then undertook a very extensive operation and removed a great deal of necrosed bone including a portion of the great wing of the sphenoid.

The patient recovered and was much benefited.

The second case was that of a lady who had normal acuteness of vision when first seen but subsequently developed retrobulbar neuritis and supraorbital neuralgia. The symptoms increased with proptosis and tumor of the optic nerve was diagnosed. Sir Victor Horsley operated and a growth was found which proved to be a endothelioma. The patient was much relieved.

Mr. Jessop referred to other cases and emphasized the great relief afforded by the operations.

ASTHENOPIA.

MR. C. BROOKSBANK-JAMES read a paper detailing a plan of treating some cases of asthenopia. He had noticed how rare it was to see myopia develop in watchmakers and those who used a single eyeglass for magnifying their work; apply-

ing the same principle to other cases he had come to the conclusion that the development of myopia might be arrested by similar means. He mentioned the case of a patient who had — 1.5 D myopia, and for this he ordered a glass of + 1.5 to be used for one eye only, so that convergence might be prevented. The myopia did not increase during many months while using this method, though it increased 0.5 when ordinary glasses were used.

Mr. C. Worth thought that, in cases in which pain and fatigue were prominent symptoms, hyperphoria was present.

Mr. Bishop Harman did not consider that the mere closing of one eye would prevent convergence when looking at a near object; and thought it would much interfere with education if this plan were adopted.

Rheumatoid Arthritis.

Mr. Beaumont read a paper on the eye symptoms of rheumatoid arthritis, with especial reference to the fields of vision. In spite of recent research by Bannatyne and Wohlmann there was much that was obscure in rheumatoid arthritis, and he desired to call attention to the contraction of the fields of vision which frequently occurred. He compared the compound charts of male and female patients and found them similar. They were obtained by a novel method. The number of degrees from fixation point outwards was noted in each case. These were added together and divided by the number of patients examined, and so an average field was constructed. The uniformity of the fields in males and females excluded, he thought, hysteria but not necessarily neurasthenia. There was no central scotoma in rheumatoid arthritis, and no evidence of optic atrophy, and, as a rule, not more than a proportionate contraction of the color fields. He remarked upon the Raynoud-like symptoms that were sometimes present, and said that Dr. Samuel Lodge had noticed contracted fields in this disease. Possibly the contraction was due to the syncopal conditions of the terminal vessels of the retina. Diagrams were shown in which expansion of the fields occurred when amyl nitrite was inhaled, whereas in a healthy person no enlargement was noticed.

Tuberculosis of the Choroid.

Mr. J. R. Lunn described a case of tuberculosis of the choroid. The child was 6 years of age, and was suffering from symptoms of general tuberculosis, and was in a typhoid condition. There was discharge in the left ear. Optic neuritis was present and a swelling in the choroid. In spite of the disease the child got quite well, but the oval area in the choroid was still present, though the optic neuritis had subsided. He thought the case was doubtless tuberculous.

Mr. Jessop mentioned a case of allied character.

The Color Vision Committee handed in its report. The committee were of opinion that Holmgren's test was sufficient for the detection of a large number of color-blind cases; but they agreed with Dr. Edridge-Green that some cases of color-blindness could not be detected by Holmgren's test however skillfully and fully used; and that other cases which satisfied Holmgren's first test (pale green), and would therefore be passed as normal in most ordinary routine examinations, were exposed by the careful use of Holmgren's second test (rose test color). They further agreed that some cases were only to be detected by the use of the lantern. The discovery of the defect could, as a rule, be made with certainty by Dr. Edridge-Green's modification of the wool test. They also drew attention to the importance of the shortening of the red end of the spectrum in some patients and to the necessity of having a test that would detect such cases. Shortening of the violet end was also important when violet or purple lights were used.

Specimens.

The following card specimens were shown: Mr. Johnson Taylor: A swelling of unusual size, probably inflammatory, in the ciliary region.—Mr. Treacher Collins: An unusual superficial circumferential opacity of the cornea, symmetrical in the two eyes.—Mr. G. W. Thompson: An unusual form of central choroiditis in a young man.—Mr. G. W. Roll: Unusual changes in the macular region.—Dr. D. Mowat: Paralysis of inferior recti muscles.—Dr. Rayner Batten: Subretinal hæmorrhages.

JOHN TWEEDY, F.R.C.S., President, in the Chair.

Thursday, February 11th, 1904.

GONORRHŒAL CONJUNCTIVITIS AND HYDROGEN PEROXIDE.

MR. BRONNER read notes of a case in which a woman aged 32 had had her eye inflamed for two days before being seen. The lids were swollen, and a profuse discharge was present in which gonococci were found. Perchloride of mercury was used as a lotion, as well as protargol (5 per cent.) to the lids, and drops of 3 per cent. hydrogen peroxide instilled every four hours. On leaving off the peroxide the cornea rapidly became ulcerated, but on recommencing it the ulcer at once ceased spreading and healed, leaving remarkably little scar behind. Excellent vision was obtained, and Mr. Bronner had never seen so bad a case make so remarkably good a recovery. This he atributed to the peroxide.

The PRESIDENT had used hydrogen peroxide in cases of hypopyon ulcer, but had not tried it for purulent ophthalmia. The ulcer cases did very well indeed.

MR. HARTRIDGE said that years ago all cases of purulent ophthalmia at Moorfields were treated with peroxide, but that for some reason or other it had been given up. He thought protargol of weaker strength than 20 per cent. was of very little use.

MR. HOLMES SPICER said that some years ago he published a large number of cases of purulent ophthalmia treated at Moorfields, and he found that those treated with silver did much better than when treated only with peroxide.

MR. BRONNER, in reply, said that he did not at all advocate its use to the exclusion of silver and other remedies, but in combination with them he was much impressed with its utility.

CONGENITAL ANTERIOR STAPHYLOMA.

MR. J. HERBERT PARSONS read a paper on the case of a girl, aged three days, admitted at Moorfields under the care of Mr. Fisher, with an anterior staphyloma of the left eye.

The condition was noticed at birth. The mother was healthy and the confinement was normal; the child was born immediately after rupture of the membranes; there was no

other deformity. There was a very slight mucous discharge, and a complete anterior staphyloma with no anterior chamber. The iris was adherent to the pseudo-cornea, which was very thin and almost transparent. Pathological examination showed the usual features of an anterior staphyloma, the lens being *in situ*, and the whole eye in an early stage of panophthalmitis. The posterior chamber was full of polymorphonuclear leucocytes, which were also present in the vitreous. The true cornea at the sides showed dense infiltration; the epithelium and Descemet's membrane were present here only. The anterior capsule of the lens was ruptured; the lens was cataractous, but there was no anterior capsular cataract.

Nine previous cases of congenital anterior staphyloma with pathological examinations had been reported. All the cases showed exactly the same features which were found when the condition developed in the usual manner after birth. It was probable that the intrauterine cases were due to the same cause—namely, perforation of the cornea. Traumatic perforation of the cornea under these circumstances was very improbable. Could intrauterine ulceration of the cornea occur? Endogenous infection was improbable, owing to the absence of blood vessels in the fetal cornea; at the same time it might be brought about by toxines. Exogenous infection through the amniotic fluid was more probable, and accounted for the frequency of bilateral disease. There was no doubt that intrauterine transmission of infection—for example, anthrax, tubercle, etc.—could occur. Infection per vaginam at birth could be indefinitely eliminated in some cases—for example, Hirschberg and Birnbacher's and Runte's, in which the children were seen half an hour and half a day respectively, after perfectly natural confinements. It was improbable in the case cited, seen on the third day. It was almost impossible to explain the cases on the theory of mal-development, and even then the inflammatory condition would require explanation.

Mr. Treacher Collins, who had seen the specimens, thought failure in the development of the anterior chamber was the original cause of the condition. The inflammatory changes might easily have occurred in the three days following birth; and, as there was a gap in the anterior capsule, he

thought that there had been a perforating lesion caused most probably by the finger of the accoucheur.

Mr. Nettleship referred to two cases that he had seen; and Mr. Parsons replied.

Card Specimens.

Messrs. A. Ogilvy and Sydney Stephenson: Specimens of epithelioma of the ocular conjunctiva.—Mr. Arnold Lawson: Traumatic aniridia.—Mr. Bishop Harman: Nose-blinking movements.—Mr. Hartridge: Unusual opacity of posterior part of the lens and capsule.—Mr. G. W. Thompson: (1) Double kerato-iritis in an infant; (2) peculiar changes of and around the disc.—Mr. Mayou: Two cases of cerebral degeneration in the same family associated with muscular changes.—Mr. Jessop: Epibulbar tumor.—Mr. L. Werner: (1) Lymphoma of the conjunctiva; (2) congenital defect in the ocular movements, combined with peculiar associated movements of the eyes.

ABSTRACTS FROM MEDICAL LITERATURE.

By W. A. SHOEMAKER, M.D.
ST. LOUIS, MO.

SIXTY-EIGHT REASONS WHY "GLASSES DID NOT GIVE RELIEF."

George M. Gould (*American Medicine*, July 4, 1903) says;

Headache, sick headache, biliousness, dyspepsia, neurasthenia, anæmia, anorexia, chorea, epilepsy, and many other nervous, mental, cerebral, and denutritional disorders may, or may not, be due to eyestrain. That glasses in certain cases fail to relieve these symptoms is no proof or disproof of either alternative. The failure may be due to any one or to any combined number of the following facts:

1. The patient's complaint may not be caused by eyestrain.

2. Intercurrent disease, dyscrasia, bad hygienic habits, conditions of mind—many indirectly related factors may con-

dition or hinder the cure of the disease which fundamentally depends upon eyestrain, or was principally caused by it.

3. Stopping the cause does not always stop a morbid effect.

4. The glasses may have been prescribed by an optician, instead of by a physician.

5. The physican-oculist may lack the degree of special education and experience requisite to do refraction work.

6. The oculist may not be morally right minded in carrying on his work and in the conception of his function in life.

7. He may not be intellectually fitted or capable of doing this particular kind of work.

8. He may not be sufficiently painstaking in attention to mathematic accuracy and to the slightest details.

9. He has not devoted himself almost exclusively to refraction.

10. He relies upon rules instead of studying each case individually, judging and ordering by intellectual and discriminating methods.

11. He has not office tact and an ability to get in touch quickly with the patient's condition of mind.

12. He has some prized fad or method, as retinoscopy, a peculiar drug, a mechanical device, optometers, refracting machines, etc., in the use of which facts must accommodate themselves to the fancy instead of the data fashioning the diagnosis.

13. He relies upon objective instead of, when possible, upon subjective methods of diagnosing ametropia.

14. He does not use a cycloplegic.

15. His cycloplegic may not be of the right kind.

16. The cycloplegic may not be of good quality.

17. The cycloplegic must be rightly instilled.

18. The office lights, reflections, etc., often prevent accurate answers of the patient.

19. The illumination of the test cards may be so excessive, so poor, or so irregular as to fatigue the patient's retina.

20. Test cards made with black letters on white cards exhaust retinal sensibility in the iris-paralyzed patient.

21. A test card may be hung at such an angle as to re-

flect an irritating and exhausting sheen into the patient's eyes.

22. Astigmatic test cards, Pray's letters, and a hundred devices confuse the patient rather than help him to clearness of decision.

23. It is impossible for the most expert refractionist to elicit accurate diagnostic answers when using the ordinary trial-frame.

24. The case of test-lenses in common use is hardly less ridiculous than the trial-frame, etc.

25. Frequently the test lenses are so scratched or soiled that acuteness of vision is prevented instead of encouraged.

26 to 29. In interposing the low-grade trial lenses to test slight differences of visual acuteness, the detection of the difference by the patient is rendered doubtful or impossible by the usual method of inserting or holding the test-lens.

a. By allowing the interposition of a needless and confusing image.

b. By striking the trial-frame or inserted lens with the differentiating lens, making a noise, and consequently distracting the attention.

c. By getting the hand in the line of vision.

d. By allowing too great time to elapse between two changes so that the memory cannot form and carry precise distinctions, and by not allowing sufficient time in special cases and in certain persons for the formation of such judgments. Great helps in all of these points are two each plus and minus sphericals and cylinders, 0.25 D. each with handles about four inches long.

30. Patients must not be hurried, or intimidated, or dominated.

31. The patient's answers may sometimes be unintentionally the reverse of correct, or wrong in odd and unexpected ways.

32. Good or bad visual acuteness is not the decisive criterion of acuracy of diagnosis of ametropia.

33. There is probably not an optically or "mathematically" perfect pair of eyes in the world.

34. Great care is necessary to determine the relative amounts of astigmatism and of axial defects.

35. The location of the precise axes of astigmatism is necessary for the relief of symptoms.

36. The head of the patient should be kept erect and in a natural position, not canted to one side or downward, while the tests are being made.

37. Low degree myopic astigmatisms are too frequently not diagnosed, and owing to the utter inability of the ciliary mechanism to neutralize them, they may produce severe reflex disturbances.

38. "Full correction" of myopia is a prolific source of eyestrain.

39. The static mydriatic refraction cannot be trusted to dictate the prescription of "constant" glasses.

40. Hypertrophy, or miscalled "spasm" of the ciliary muscle, may make it impossible to prescribe the permanently right glasses at once; may demand changes at short intervals, and may render the glasses prescribed unendurable.

41. The patient's history as to the eyes and reflex diseases must be considered in giving high or low corrections either myopic or hyperopic.

42. The injury to the retina and to the sight-making centers by long eyestrain may make ocular labor impossible for a short or a long time, even with proper correcting glasses.

43. An error may be made in transcribing or copying the prescription; the optician may grind the glasses wrong; his tools may be worn; he may give the patient somebody else's glasses; the patient may exchange spectacles with some one, etc. Loosened lenses may be reinserted wrongly by a jeweler, etc.

44. The order for glasses must be carefully adapted to the occupation of the patient.

45 to 51. The muscle-balance conditions the strength of the lenses to be ordered, the aim being to establish a normal relation between convergence and accommodation.

a. There should be at least thrice the power of adduction as of abduction to give ease in ocular labor of those doing much near work.

b. Low hyperopic corrections are needed in exophoria.

c. High hyperopic corrections are needed in esophoria.

d. Hyperphoria of more than 1° or 2°, when permanent, should be partialy corrected by prisms ground in the ametropic lenses.

e. Permanent prisms correcting exophoria or esophoria are not advisable. In exophoria the adduction power may be trebled or quadrupled by prism gymnastics.

f. The wearing of a new correction itself soon changes the muscle tensions, intraocular pressures, etc., and thus may change the ametropia, and make a change of glasses necessary.

g. It will surely change the muscle imbalances, thus rendering the old prescription incorrect.

52. and 53. The symptoms of long-continued exophoria and esophoria, of a high degree, may rarely not be relieved by proper ametropic spectacles alone.

a. In exophoria that causes symptoms and that does not in time disappear with proper glasses, the symptoms can be relieved only by increasing the adduction power by appropriate prism-gymnastics. It may be doubled, quadrupled, etc., until the symptoms vanish.

b. In high esophoria, a very rare condition, producing symptoms, a case or two may be met in a life time, in which there is little or only partial relief, either by glasses, prisms, or surgical operation. Even good oculists cannot cure in more than 999 cases out of 1,000!

54. Like every other biologic condition, the ametropia is constantly changing, and thus retesting is required at stated intervals, with a change of glasses if required.

55 to 60. One of the most frequent causes of eye-strain is ill-adjusted glasses.

a. But few people can keep eye-glasses so accurately adjusted, for near work, that they do not produce at least as much eyestrain as they relieve. A new bearing on the nose is unconsciously found which is more comfortable as regards the skin, but which puts the astigmatic axis in an abnormal position. Spectacles are the proper instruments for the great majority of patients.

b. Nine-tenths of all glasses are set too vertical. Nine-tenths of all our looking is downward. The axes of vision should be nearly perpendicular to the plane of the lenses in the most straining work.

c. Nine-tenths of all glasses are set too high. In downward-looking and in near work, the axis of vision is through the lower edge of the lenses instead of through or near the optical centers.

d. Few opticians know how to fit and adjust a pair of glasses so that the pupils are behind the optical centers of the lenses. The photographs of a hundred people wearing glasses show that the glasses are so ill-adjusted as to disgust an observant oculist.

e. Few opticians fit the temple pieces of spectacles and adjust the wires to the irregular curves behind the ears, so that they produce comfort. Many patients leave off glasses because of this discomfort to the nose or ears.

f. The optician must readjust the lenses at least once a month.

61. Before wearing the glasses ordered they should be seen by the oculist, tested as to correctness of manufacture, and as to the adjustment, etc.

62. Nine-tenths of all glasses are set too far from the eye.

63 and 64. Soiled lenses are frequent and constant sources of eyestrain.

a. From too long lashes.

b. From lack of frequent and proper cleansing.

65. The Canada balsam in bifocal lenses may produce irregularities in the refraction, or it may dry and produce opalescent bubbles so that the eyes soon tire. A lens may have an original or acquired imperfection, flaw, dent, etc., in the axis of vision, producing unendurable irritation.

66. Eyestrain often exists in presbyopes because of the need of bifocal lenses.

67. Pride and prejudice often make people secretly or openly, temporarily or constantly, forego the use of spectacles, of bifocals, and even of eye-glasses.

68. There are one or two ways in which proper glasses

may rarely increase eyestrain, at least temporarily, instead of relieving it. This is when one eye has been thrown out of function by past eyestrain, the image psychicly ignored, or the retinal or central organs so weakened, that the proper image so stimulates and arouses function in a weakened organ as to beget trouble until amblyopia disappears and the injured organs become normal in action.

A SIMPLE DEVICE FOR THE TREATMENT OF SPASMODIC ENTROPION.

Leslie Buchanan (*Ophthalmoscope*, Dec. 1903), after several years experience recommends the following procedure:

"A needle, half curved, about 3 cm. in length, bearing a suture of silk, double, and about eight inches in length, is inserted under the skin of the lower eyelid, at a point about 5 mm. from the ciliary margin, and at the junction of the external and middle third of the lid.

"It is carried along under the skin parallel to the lid margin, and brought out at the junction of the middle and inner thirds. From this point of counter-puncture the suture is drawn out for half its length. The needle is then re-inserted at a point 3 or 4 mm. below the counter-puncture, carried along under the skin again to a point 3 or 4 mm. below the first puncture, and the thread drawn tight.

"The two ends of the thread are then, being 3 mm. apart, crossed, drawn quite tight, tied and cut off short."

The stitches are removed after a week or ten days. The bridge of fibro-plastic tissue that is formed gradually absorbs, leaving no deformity.

The advantages of this method over the excision of a piece of skin are: It requires no anesthetic, and occupies much less time.

SKIN GRAFTING FOR THE RESTORATION OF THE EYELIDS.

Oscar Dodd (*Jour. A.M.A.*, Oct. 17th, 1903), reports his successes and failures in this class of cases and gives his views of the different methods of skin grafting. The *pedicle graft* has a place which the Wolfe or the Thiersch grafts cannot fill. (1) When placed in a region devoid of bloodvessels it still has a source of nourishment. (2) It has a firmness and and substance which is necessary on the lower lids especially when the whole thickness of the lid has been removed with a

tumor. (3) Shrinkage is at a minimum, $^1/_4$ to $^1/_3$ the original size, and (4) It is nearly like the skin it is intended to replace. On account of its thickness and weight, the author does not advise the use of this graft for the upper lid.

The greatest objection to the *Wolfe graft* is its uncertainty. For the lower lid it is preferred to the Thiersch graft, in some cases, as it gives more support. On account of its weight, it should not be used on the upper lid, except in special cases.

The *Thiersch graft* is probably the easiest to handle and seems to grow wherever a raw snrface is prepared for it.

By some it is used to the exclusion of all others, but the author feels it has its limitations.

In preparing this form of graft the the author has the skin perfectly dry and uses a dry razor, in preference to using the salt solution, as he can cut much better grafts and has less trouble getting them into place. The amount of shrinkage that takes place depends entirely upon the tissue upon which they are placed. If placed on a surface that does not contract no shrinkage takes place; if it does contract, shrinkage occurs.

Summary: For the upper lid Thiersch grafts should always be used, unless the whole thickness of the lid is destroyed.

In forming the lower lid, if there is adjacent skin available it should be used to form the lid and the resulting defect filled in with Thiersch grafts. When there is dense cicatricial tissue for the floor of the graft a pedicle graft is the only one which I have found satisfactory.

Should pedicle grafts not be available and the underlying tissue have proper vascularity, then either Wolfe or Thiersch grafts may be used, and my results have been best with a Wolfe graft prepared very thin.

PRIMARY MELANO-SARCOMA OF THE EYELID.

A. V. Lotine (*Roussky Vratch*, July 12th, 1903) reports a case in a man aged twenty-six years.

"The growth arose with a broad base from the edge of the lower right eyelid, and included almost the entire surface of the latter, partly closing the eye and partly hanging over the cheek. It was spherical, dense, moist, bleeding on the removal of crusts, and was dark-brown, in places black. Its

size was that of a small apple. The eyelid was everted and œdematous, and the veins around the parts were dilated. The left submaxillary and parotid glands formed dense swellings of the size of a child's head, and there was a large ulcer at the lower part of this swelling. On microscopical examination, the growth was found to be a melano-sarcoma. Such cases are rare, but not so rare as they are stated to be in text books. Thus, Kastalskaya collected fifty cases from literature up to 1899, and since then the present author has been able to find ten additional instances, making in all sixty cases of primary melano-sarcoma. (*N. Y. Med. Jour.*)

TUMORS OF THE CONJUNCTIVA.

Edward Adams Shumway (*Jour. A. M. A.*, Sept. 26, 1903) discusses primary tumors of the conjunctiva, dividing them into two classes: (1) malignant, (2) non-malignant. Malignant growths (carcinoma and sarcoma) usually appear in patients over forty years of age. Their point of predilection is at the corneo-scleral margin, and a microscopical examination is frequently necessary to make a differential diagnosis.

Carcinomatous growths consist of proliferating masses of epithelial cells, which develop from the surface epithelium and are separated into alveoli by a connective tissue stroma; they appear first as small, pale reddish masses, usually of slow growth, with little tendency to penetrate the cornea or sclera. If allowed to remain, however, they will ultimately perforate the eyeball.

A number of cases of melano-carcinoma have been reported. Panas believes mealno-carcinoma to be the rule and melano-sarcoma the exception.

Sarcoma develops chiefly from the pigmented nevi on the conjunctiva; it is a soft vascular growth, usually more prominent than the carcinomas and occasionally possesses a pedicle. It consists of closely packed spindle-shaped cells, running in definite bundles, or, more frequently, the cells are arranged in distinct alveoli, separated by a connective tissue stroma. In many cases the cells are flat and are epithelioid or endothelial in type. The growths are to be distinguished from carcinomas by the absence of involvement of the surface epithelium. Recurrence after removal frequently occurs.

Benign growths of the conjunctiva are divided into (1) congenital (2) acquired. The former being sessile and the latter usually polypoid in shape.

Dermoid tumors are by far the most frequent of the congenital growths, usually situated at the corneo-scleral junction on the temporal side, and are frequently associated with other congenital anomalies, such as coloboma of the lid—a temporary attachment of the amnion to the eyeball during fetal life, is given as the cause by most of the late writers.

Lipoma is a more rare congenital growth, appearing as a yellowish mass between the insertions of the external and superior recti.

Osteoma is a rare subconjunctival tumor, (twelve cases have been reported) representing small pieces of true osseous tissue, and are supposed to be the result of a temporary adhesion of the amnion to the eyeball.

Lymphangiomas and *telangiectasias* are very rare congenital growths.

The acquired forms of benign growth are:

(1) *Fibroma*, soft and hard. The soft occurs mostly in the fornix or in the palpebral conjunctiva. The hard variety is less frequent and is found chiefly in the palpebral conjunctiva and the carnucle.

(2) *Granuloma* is the result of a superficial loss of conjunctival tissue, frequently after tenotomies, enucleations and after rupture of chalazia.

(3) *Papillomas* are among the most common tumors of the conjunctiva. They are small growths whose surface is covered with tiny papillæ, like the surface of a raspberry, instead of being smoothe as is the surface of a fibroma. They occur mostly in the neighborhood of the carnucle and semilunar fold; but are also found on the tarsal and bulbar conjunctiva. Unless thoroughly removed they show a tendency to recur.

(4) *Adenomas* rarely occur, (five cases have been reported) and are found mostly in the neighborhood of the carnucle, as pale red, isolated tumors.

(5) *Hæmangiomas*, of which fifty-two cases have been collected by Pergens, may be congenital or develop later in life, and are found on the palpebral and bulbar conjunctiva, the fornix and plica semilunaris, as round, polypoid and oc-

casionally sausage shaped growths, whose surface is sometimes smoothe and sometimes nodular.

(6) *Cysts* of the conjunctiva are comparatively rare, and are found chiefly on the fornix, bulbar and palpebral conjunctiva, in the form of transparent vesulis filled with a serous fluid, and may be the result of "invaginated processes of epithelial cells," pterygia, enlarged lymph vessels, and closure of the excretory ducts of the accessory lacrimal glands, and the glands of Henle. Cysts from the glands of Henle are quite frequent in chronic catarrh and trachoma.

PATHOLOGY OF THE CERVICAL SYMPATHETIC.

John E. Weeks (*Jour. A. M. A.* Jan. 30.) concludes his paper as follows:

The testimony in our possession is not sufficiently conclusive to enable us to say that there is any constant change in the cervical sympathetic peculiar to glaucoma. Nor is it sufficiently conclusive to exclude the possibility of such constant change. Farther and more careful research is necessary; first, probably along the lines suggested by Dr. Van Giesen, viz., by means of the Ehrlich methylene blue method with fresh ganglia or by other equally delicate methods for the purpose of determining the conditions of the processes of the neurons and the cell structure, and, second, a study of the pigmentation of the neurons, which must be made in comparison with control studies.

THE INFLUENCE OF RESECTION OF THE CERVICAL SYMPATHETIC GANGLIA IN GLAUCOMA.

William H. Wilder (*Jour. A. M. A.*, Feb. 6th and 13th) presents a detailed report of seven cases in his own practice, and gives an abstract of the records of sixty-one cases as furnished him by different observers in answer to a circular letter sent out last spring.

The author concludes his paper as follows:

I feel that positive conclusions are not yet to be reached, and will not be until more carefully selected cases can be studied for longer periods of time.

The operation in itself, while a major one, is not to be considered one of unusal danger, and with modern technic should show a very trifling mortality. The death recorded in

our present series was purely accidental, and might have occurred in any other operation on the neck. With such brilliant results before us as are presented in certain cases on record, we must agree that sympathectomy is not an operation to be condemned too hastily. It certainly is not fair to condemn it when it fails to restore sight to an eye that has suffered so long from glaucoma that it is blind from atrophy of the nerve, or when it fails to check pain in an eye that is hopelessly lost from absolute glaucoma.

If it is to be compared with iridectomy at all, it should be given an early trial in any form of the disease in which it is applicable.

The statistics up to date seem to indicate that the simple chronic form is the one most suited for it, next to the hæmorrhagic form, if that can be determined. As a guide for my own practice, I should feel very much like following Abadie when he says: "In acute forms of glaucoma and in subacute with intermissions, practice first iridectomy, and if it fails do sympathectomy. In simple glaucoma use myotics twice a day; if they suffice, continue them. If, in spite of their systematic employment the vision fails, do sympathectomy.

INFLUENCE OF RESECTION OF THE CERVICAL SYMPATHETIC IN OPTIC-NERVE ATROPHY, HYDROPHTHALMOS AND EXOPHTHALMIC GOITER.

J. M. Ball, (*Jour. A. M. A.*, Jan. 30) from his experience and a review of the literature of the subject, draws the following conclusions:

1. Excision of the superior cervical ganglion of the sympathetic nerve is worthy of a trial in those cases of simple atrophy of the optic nerve which resist measures less heroic.

2. It is yet impossible to say whether the bilateral operation is advisable in unilateral optic-nerve atophy.

3. The value of sympathectomy in congenital hydrophthalmos has not been demonstrated.

4. In exophthalmic goiter, complete excision of the cervical sympathetic is followed by a larger percentage of cures than in any other procedure. Thus far no deaths have been recorded. The number of operations, however, is small and final conclusions can be announced only after a large number of cases shall have been treated by this method.